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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/621,400      | 07/18/2003  | Masaaki Terashima    | 2870-0257P          | 2450             |

2292 7590 12/08/2006

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| EXAMINER |
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NOGUEROLA, ALEXANDER STEPHAN

|          |              |
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| ART UNIT | PAPER NUMBER |
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1753

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/621,400

**Applicant(s)**

TERASHIMA ET AL.

**Examiner**

ALEX NOGUEROLA

**Art Unit**

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 and 10-14 is/are allowed.
- 6) ☒ Claim(s) 6, 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/15/2004</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 6, 8, 9/6, and 9/8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka et al. (US H949).

Addressing claim 6, Ishizuka et al. discloses a complex pH electrode that otherwise meets claim 6 except for requiring “a reference liquid containing bicarbonate ions having the concentration substantially equal to the that of the test liquid.” See the abstract; Figures 1, 3, and 5; and col. 02:34-50; col. 04:05-17; col. 05:37-60; and col. 07:06-42. Note that the preferred method for making the ion selective electrode is disclosed in U.S. Pat. No. 4,683,048. Although does not mention providing “a reference liquid containing bicarbonate ions having the concentration substantially equal to the that of the test liquid,” it should be first noted that this limitation does not appear to have patentable weight as the test liquid is not part of the kit, so the limitation is just an intended use. In any event, it would have been obvious to one with ordinary skill in the art at the time of the invention to provide such a reference liquid because Ishizuka et al. teaches calibrating the carbonate electrode and testing it. See col. 07:44 – col. 08:09. So, by providing a reference liquid and test liquid as claimed the carbonate electrode can be calibrated with the reference liquid (and other reference liquids) and the calibration can then be checked with the test liquid.

Addressing claim 8, barring a contrary showing, such as unexpected results, the concentration of bicarbonate ions in the reference liquid will just depend on the

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expected concentration range in the test liquid(s), especially since Ishizuka et al. discloses test samples with a carbonate concentration of 23.2 mmol and 36.4 mmol. See col. 07: Table 1.

Addressing claims 9/6 and 9/8, the additional limitation of this claim is just a matter of using the kit of Ishizuka et al. as intended. See Examples 1 and 2 in columns 7 and 8.

***Allowable Subject Matter***

5. Claims 1-5 and 10-14 are allowed.

6. Claims 7 and 9/7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an examiner's statement of reasons for allowance:

a) Claims 1, 7, and 10: the combination of limitations requires the hydrogen ion-selective membrane to be saturated with carbon dioxide gas. Applicants have found that this will suppress electric potential drift. See page 19 of the specification.

Ishizuka et al. (US H949) discloses a complex pH electrode that otherwise meets claim 1. See the abstract; Figures 1, 3, and 5; and col. 02:34-50; col. 04:05-17; and col. 07:06-42. In contrast to the invention of claim 1, though, Ishizuka et al. improves the performance of the hydrogen ion-selective membrane by neutralizing the hydrogen-ion ionophore in the hydrogen ion-selective membrane with a base. See page 4, lines 15-37 and page 8, lines 10-26 in EP 0074198 A1, which Ishizuka et al. refers to in a passage about the hydrogen ion-selective electrode. See in Ishizuka et al. col. 07:06-15. Ishizuka et al. also discloses alternatively that for the hydrogen ion-selective electrode the hydrogen ion-selective membrane may be made of glass. See in Ishizuka et al. col. 07:05-24 and in US 4,282,079 the abstract; col. 11:04-11 and col. 11:53-59.

b) Claims 2-5 depend directly or indirectly from allowable claim 1.

c) Claims 11-14 depend directly or indirectly from allowable claim 10.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX NOGUEROLA whose telephone number is (571) 272-1343. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NAM NGUYEN can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alex Noguerola  
Primary Examiner  
AU 1753  
December 6, 2006